

AMENDMENTS TO THE CLAIMS:

The following Listing of Claims replaces all prior Listings and versions of claims in the above-identified application.

Listing of Claims

1-44. (Cancelled)

45. (Currently Amended) A method to reduce the symptoms, the occurrence or the severity of a disease or condition that can be treated by alpha interferon, comprising administering to an animal having said disease or condition a composition comprising a cysteine variant of alpha interferon-2 of SEQ ID NO: 3 ~~The method of Claim 44~~, wherein said cysteine variant comprises at least one cysteine residue substituted for an amino acid selected from the group consisting of: D2, L3, P4, Q5, T6, S8, Q20, S73, A74, A75, N45, D77, E78, T79, Q101, G102, G104, V105, T106, E107, T108, P109, M111, K112, E113, D114, S115, K131, E132, K133, K134, Y135, S136, A139, S152, S154, T155, N156, L157, Q158, E159, S160, L161, R162, S163, K164, ~~and~~ E165, or a cysteine residue added at position 166 with respect to SEQ ID NO:3.

46. (Cancelled)

47. (Currently Amended) The method of claim ~~46~~45, wherein said cysteine variant comprises at least one cysteine residue substituted for at least one amino acid selected from the group consisting of D2, L3, P4, Q5, T6, ~~and~~ S8.

48. (Currently Amended) The method of claim ~~46~~45, wherein said cysteine variant comprises a cysteine residue substituted for Q5.

49. (Cancelled)

50. (Currently Amended) The method of claim ~~49~~45, wherein said cysteine variant comprises at least one cysteine residue substituted for at least one amino acid selected from the group consisting of Q101, G102, G104, V105C, T106, ~~and~~ E107, T108, ~~and~~ P109.

51. (Currently Amended) The method of Claim ~~49~~45, wherein said cysteine variant comprises a cysteine residue substituted for M111.

52. (Currently Amended) The method of Claim ~~[[44]]~~45, wherein said composition is administered by a route selected from the group consisting of intravenous administration, intraperitoneal administration, intramuscular administration, intranodal administration, intracoronary administration, intraarterial administration, subcutaneous administration,

transdermal delivery, intratracheal administration, intraarticular administration, intraventricular administration, inhalation, intranasal, intracranial, intraspinal, intraocular, aural, intranasal, oral, pulmonary administration, impregnation of a catheter, and direct injection into a tissue.

53. (Currently Amended) The method of Claim ~~[[44]]~~45, wherein said composition is administered by intravenous administration.

54. (Currently Amended) The method of Claim ~~[[44]]~~45, wherein said composition is administered by subcutaneous administration.

55. (Currently Amended) The method of Claim ~~[[44]]~~45, wherein said cysteine variant of alpha interferon-2 is modified with a cysteine-reactive moiety.

56. (Original) The method of claim 55, wherein said cysteine reactive moiety is a polyethylene glycol.

57. (Currently Amended) The method of Claim ~~[[44]]~~45, wherein said disease is cancer.

58. (Currently Amended) The method of Claim ~~[[44]]~~45, wherein said disease is a viral disease.

59. (Original) The method of claim 58, wherein said viral disease is selected from the group consisting of Hepatitis B and Hepatitis C.

60. (Previously Presented) The method of claim 57, wherein said cancer is selected from the group consisting of leukemia, melanoma and Kaposi's sarcoma.

61. (Previously Presented) The method of Claim 57, wherein administration of the composition inhibits growth of tumor cells.

62. (Previously Presented) The method of Claim 58, wherein administration of the composition inhibits viral growth.

63. (Currently Amended) The method of Claim ~~49~~45, wherein said cysteine variant comprises a cysteine residue substituted for Q101.

64. (Currently Amended) The method of Claim ~~49~~45, wherein said cysteine variant comprises a cysteine residue substituted for T106.

65. (Currently Amended) The method of Claim ~~49~~45, wherein said cysteine variant comprises a cysteine residue substituted for E107.

66. (Cancelled)

67. (Currently Amended) The method of ~~66~~45, wherein said cysteine variant

comprises a cysteine residue substituted for S163.

68. (Currently Amended) The method of claim ~~[[44]]~~45, wherein the arginine at position 23 with respect to SEQ ID NO:3 is substituted with a lysine.

69. (Cancelled)

70. (Cancelled)

71. (New) The method of Claim 45, wherein said cysteine variant comprises a cysteine residue at position 166 with respect to SEQ ID NO:3.